

LISTING OF CLAIMS

Claims 1-23 (Canceled).

Claim 24 (Withdrawn): A process for depositing a thin film on a surface of a substrate, the process comprising:

introducing a vapor of a first material comprising one or more compounds claimed in claim 59 to the substrate wherein at least a portion of the vapor of the first material adsorbs on the surface of the substrate; then

introducing a vapor of a second material wherein the second material activates the first material to react and form the thin film on the surface of the substrate.

Claim 25 (Withdrawn): The process of claim 24, further comprising:

removing at least a portion of the vapor of the first material that has not adsorbed on the substrate from the vicinity of the substrate before introducing the vapor of the second material; and

removing at least a portion of the vapor of the second material from the vicinity of the substrate.

Claim 26 (Withdrawn): The process of claim 24, wherein the thin film comprises tungsten and nitrogen.

Claim 27 (Withdrawn): The process of claim 24, wherein the first material comprises tungsten, molybdenum, or mixtures thereof.

Claim 28 (Withdrawn): The process of claim 24, wherein the first material comprises one or more compounds comprising tungsten-nitrogen bonds.

Claims 29-32 (Canceled).

Claim 33 (Withdrawn): The process of claim 24, wherein the first material comprises one or more compounds comprising molybdenum-nitrogen bonds.

Claim 34 (Withdrawn): The process of claim 24, wherein the second material comprises a Lewis base.

Claim 35 (Withdrawn): The process of claim 34, wherein the Lewis base comprises ammonia.

Claim 36 (Withdrawn): The process of claim 34, wherein the Lewis base comprises pyridine.

Claim 37 (Withdrawn): The process of claim 24, wherein the second material comprises a hydrogen plasma.

Claim 38 (Withdrawn): The process of claim 24, wherein the second material comprises at least one hydrogen atom.

Claim 39 (Withdrawn): The process of claim 24, wherein the substrate is maintained at a temperature in the range of 200 °C to 400 °C.

Claim 40 (Withdrawn): A process for depositing a thin film on a surface of a substrate, the process comprising:

introducing a vapor of a first material and a vapor of a second material to the surface of the substrate; wherein

the first material comprises one or more compounds claimed in claim 59.

Claim 41 (Canceled).

Claim 42 (Withdrawn): The process of claim 40, wherein the Met is W.

Claims 43-44 (Canceled).

Claim 45 (Withdrawn): The process of claim 40, wherein the second material comprises ammonia.

Claim 46 (Withdrawn): The process of claim 40, wherein the second material comprises pyridine.

Claim 47 (Withdrawn): The process of claim 40, wherein the second material comprises a hydrogen plasma.

Claim 48 (Withdrawn): The process of claim 40, wherein the second material comprises at least one hydrogen atom.

Claim 49 (Withdrawn): The process of claim 40, wherein the substrate is maintained at a temperature in the range of 200 °C to 400 °C.

Claim 50 (Withdrawn): A process for depositing a material, the process comprising:

 introducing a compound as claimed in claim 59 to a surface.

Claim 51 (Withdrawn): The process of claim 50, wherein the Met is W.

Claim 52 (Withdrawn): The process of claim 50, further comprising:

introducing a vapor of a second material, wherein

the compound comprises at least two elements of the deposited material; and

the deposited material is substantially free of elements of the second material.

Claim 53 (Withdrawn): The process of claim 52, wherein the second material comprises a Lewis base.

Claim 54 (Withdrawn): The process of claim 53, wherein the Lewis base comprises ammonia.

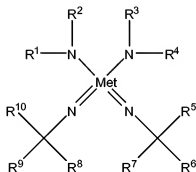
Claim 55 (Withdrawn): The process of claim 53, wherein the Lewis base comprises pyridine.

Claim 56 (Withdrawn): The process of claim 52, wherein the second material comprises a hydrogen plasma.

Claim 57 (Withdrawn): The process of claim 52, wherein the second material comprises at least one hydrogen atom.

Claim 58 (Withdrawn): The process of claim 50, wherein the substrate is maintained at a temperature in the range of 200 °C to 400 °C.

Claim 59 (Previously presented): A compound having a formula



wherein Met is W or Mo, any one of R¹ through R¹⁰ independently represent alkyl groups, arylalkyl groups, alkenylalkyl groups, alkynylalkyl groups, fluoroalkyl groups or alkyl groups substituted with other atoms or groups selected to enhance the volatility of the compound, where when Met is W and R² and R⁴ – R¹⁰ are methyl, then R¹ and R³ are not both methyl or both ethyl, and when Met is Mo and R² – R¹⁰ are methyl, R¹ – R⁴ are not ethyl.

Claim 60 (Previously presented): The compound of claim 59, wherein the Met is W.

Claims 61-71 (Canceled).

Claim 72 (Previously presented): The compound of claim 59, wherein the Met is Mo.